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HANDBOOK No. 18

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THE BIRDS OF BRITISH COLUMBIA

(7) The Owls

By C. J. Guiguet
Illustrations by Frank L. Beebe

VICTORIA, B.C. DECEMBER, 1960

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OF BRITISH COLUMBIA
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By C. J. Guiguet
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1960

one species, and the typical owls (Strigidæ), which include the remaining fourteen. All of these birds have characteristics in common which typify owls and which make them easy to identify.

Perhaps the most striking of these are the eyes and facial disks. The eyes are situated, not at the side of the head as in most birds, but in front, looking straight ahead as human eyes do. This binocular vision is efficient in depth perception and aids in the picking-out of stationary objects, which is most useful in hunting. The eyes of most owls are large, most have a yellow iris, and all are surrounded by a prominent ring of feathers to form what are known as facial disks.

The feet and bill are those of the raptore, designed for capturing prey, killing it, and shredding flesh. The upper bill is short and curved as a hook; the feet are armed with long, curved, sharply pointed claws commonly referred to as talons. Owls have soft, highly specialized feathers, and thus fly very quietly without the characteristic flight sounds that we often hear with the passage of other species of birds. The external opening of the ear is large, extending down the head on each side. A few species of owls habitually fly and hunt by day and all are capable of doing so, but most are active at dusk and at night. For this reason, the group is commonly referred to as the noctural birds of prey (Strigiformes).

Although all owls have these and other characteristics in common, the various species differ in size, shape, habit, and colour. Thus we are able to identify a bird as an owl by the possession of these characteristic features and to separate it from other species of owls on the differences, such as size, colour pattern, and behaviour.

This handbook is not designed for the advanced student of ornithology, but rather for the beginner, the bird watcher, and those casually interested. Consequently, the use of Latin names and technical terms has been limited. Each species treatment is accompanied by an illustration of the bird and a short account of its appearance, range, variation, voice, and habits.

We are indebted to the Vancouver Province newspaper for supplying most of the cuts used as illustrations.

Barn owl.

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VICTORIA
KAMLOOPS
Okanagan
Kootenay District

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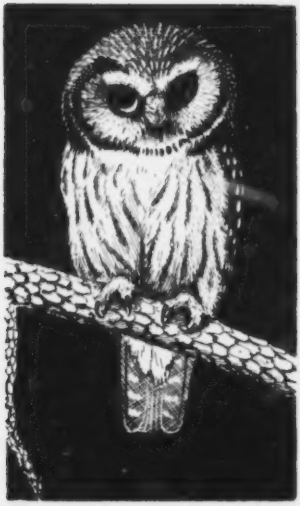
The Owls

INTRODUCTION



From earliest times, owls have been regarded by mankind with superstition, prejudice, and fear. Along with bats, they figure in the mythology, ghost stories, and witchcraft of many lands. Their nocturnal habit, ghostly flight, and melancholy calls have no doubt been responsible for much of this. To our superstitious ancestors the night-flying owls appeared like apparitions; they were heard mostly after the sun had set and the "legions of evil" had taken over the night. A more earthy, but no less unrealistic prejudice was built up in a more recent era that we hope is passing, an era in which all predators were condemned and regarded as harmful. It is as unreasonable to condemn the hawk or the owl for eating another bird or animal as it is to condemn the flycatcher for eating a fly or a moth. To-day, legislation in British Columbia protects all raptorial birds, since research has proven most of them to be directly beneficial to man in controlling harmful small mammals. The few owls not directly beneficial to man at worst do little harm, and are thus protected as well. Individual birds preying on domestic poultry may be destroyed under permit.

There are fifteen species of owls in British Columbia, representing two families—the barn owls (Tytonidæ), represented by only

Description

The barn owl is a slender bird measuring about 18 inches in total length. The facial disk is white, heart-shaped, and outlined in dark ochre. The eyes are small compared to those of most other owls, and the iris is dark, not yellow. The legs are long, with feet very sparsely feathered, and the claw of the second toe is pectinated —that is, with a comb-like edge. The plumage below is light, almost white in some individuals, but in others it is buffy or reddish-ochre in colour. The head and back are reddish-ochre washed over in ashy-grey and speckled with a variety of delicate dark and light-coloured spots, which often extend around to the breast and flanks.

Range and Variation

This bird occurs throughout the world but is represented in North America by only one form or subspecies. It ranges from the extreme southern portions of Canada, where it is uncommon, south throughout most of the United States, becoming more abundant in the south-western regions. It frequents open-type country rather than dense woodlands, and is often flushed up from grass tussocks or low shrubbery. It occurs regularly on the lower mainland and on the southern part of Vancouver Island. In this range it seems to frequent abandoned buildings and barns for the most part.

Voice

The call of the barn owl is likened to a "hissing snore," but, like most other birds, it makes a variety of other noises, most of them difficult to describe.

Potter and Gillespie (Bent, 1938) record three different calls of the adult: "(1) a discordant scream expressing alarm, (2) a snapping of the bill expressing suspicion and alarm, (3) a flight call, resembling 'ick-ick-ich-ich,' apparently signifying the bringing of food." Bill snapping is characteristic of most owls when they are alarmed and is hardly a call.

Nesting

The barn owl usually lays from five to seven, or more, dull white ovate eggs which measure about 2 inches in length. When

deposited in a natural cavity, the eggs are not supplied with nesting material, but in buildings or on such places as bridge beams a crude nest of sticks and other material is constructed.

Food

The food of the barn owl is made up almost entirely of small rodents, the bones and fur of which are regurgitated as pellets after the bird has digested the flesh and other soft parts.

In the areas frequented by this bird in British Columbia, the house mouse, the Norway rat, and a form of meadow mouse are the rodents most commonly used as food.

Fortunate indeed is the farmer upon whose land the barn owl takes up residence. Experiments have revealed that a single half-grown barn owl is capable of devouring thirteen mice in a three-hour period. Multiply this by an average nest full of six young, and there is little doubt that the rodent population in the vicinity of a barn owl's nest will be greatly reduced over the seven-week period it takes the young to mature.

The barn owl is nocturnal and appears to shun the daylight unless flushed by an intruder. At night it hunts over the open fields and, like other owls, is dependent upon hearing as well as eyesight to secure its prey.

SCREECH OWL

Screech owl.

Description

The screech owl, most abundant of the smaller North American owls, measures about 9 inches in total length. The shape is typically owl-like, with a round head, a short dumpy body, and a short tail. On each side of the head two tufts of feathers arise to give the bird a distinctive horned appearance. This, coupled with large yellow eyes centred in the characteristic facial disks common to all owls, allows for easy identification of this species.

The plumage varies in colour from reddish-brown to dark greyish-brown, with the grey predominating on the coast, the red more prevalent in the interior. The feathers on the breast and flanks have a central black vertical stripe from which radiate finer horizontal dark lines, but otherwise there are no distinctive markings. This gives the bird a streaked appearance when seen face-on at close range.

Range and Variation

In British Columbia the screech owl is confined largely to wooded regions in the southern interior and along a coastal belt extending the length of the Province. In the interior it is an uncommon bird occurring chiefly in the Okanagan Valley, but on the coast it is plentiful, particularly in the southern parts.

The species has a wide distribution, occurring in wooded regions in the southern parts of Canada and southward throughout the United States, Mexico, and in the western coastal slopes north to Alaska.

Over this vast range it varies to such an extent in size and colour that some eighteen subspecies are now recognized. These birds differ mainly in appearance, those in the interior being paler and tending to show more of the reddish colour phase which characterizes subspecies east of the Rockies.

Voice

Owls make a wide variety of noises, and the screech owl is no exception. The calling is done almost entirely at night, and the birds are most noticeable in this regard during the mating season.

However, while unfledged young are in the nest this owl is usually silent. It is heard again when the young are capable of flight.

The most often heard call is a short series of melancholy low-pitched "whoo" notes running together in a tremolo at the end. It is generally conceded that the term "screech" owl is a misnomer, for few have heard such a call from this bird.

Nesting

Natural cavities in trees, enlarged woodpecker holes, and man-made boxes are utilized as nesting-sites. From two to five almost spherical, glossy white eggs about 1¼ inches long are laid, usually in April. These hatch after an incubation period of about twenty-six days. The young are tended by both parents, which often display remarkable boldness at the approach of an intruder.

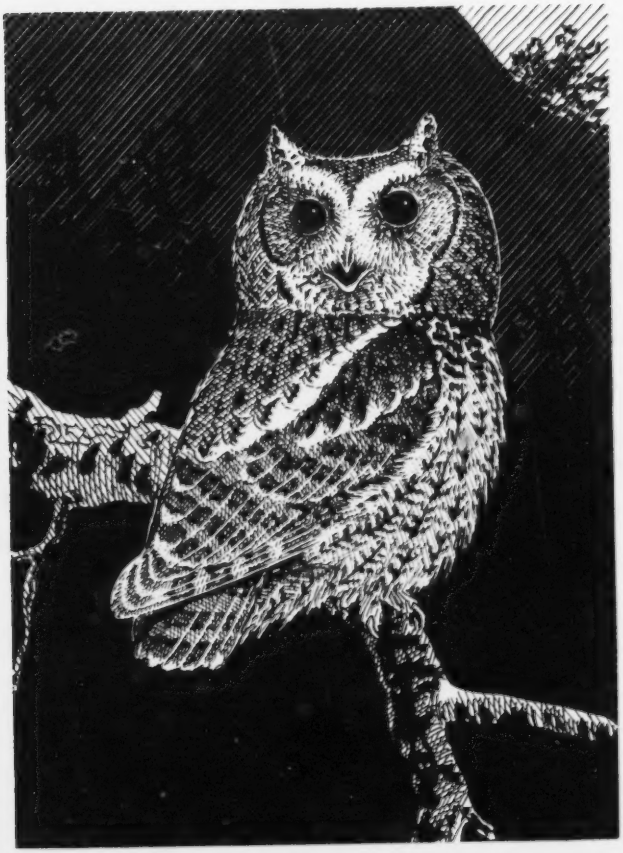
Food

The screech owl captures and feeds upon a great variety of animal life. Other birds, insects, crustaceans, small mammals, fish, amphibians, reptiles, and earthworms have all been recorded as food for the species.

Despite its small size, this owl has been known to attack and kill prey much larger than itself. Records show that pheasants, wild ducks, and domestic fowl have on occasion been taken, but, by and large, the screech owl subsists upon smaller prey. It hunts almost entirely by night, remaining under cover during the day, usually in some dark recess or against the trunk of deciduous or coniferous trees. Like other owls, it searches out its prey by ear as well as by eye, both organs being very highly developed.

The screech owl is a sedentary species and is found over most of its range throughout the year.

FLAMMULATED SCREECH OWL



Flammulated screech owl.

Description

The flammulated screech owl is a small eared owl measuring about 7 inches in total length. It is much smaller than the common screech owl, has inconspicuous rounded " ear " tufts, and the eyes are dark brown, not yellow. The feet are very small and the toes are not feathered.

There are two colour phases—a grey one, which is much more common than the other, which is red. In both, the back of the neck and head are often marked by distinct bands of white or pale buffy spots. The underparts are light in colour, irregularly barred in black and somewhat streaked as well, especially on the flanks. The tail is marked with broad dusky bars alternating with those of lighter colour.

Range and Variation

In British Columbia the flammulated screech owl is very rare, having been recorded only twice—once at Penticton, where a specimen was found dead, and once at Lac du Bois, near Kamloops, where a specimen was collected.

It is considered rare over most of its range, which extends " from southern B.C. south through the mountains west of the Great Plains to the highlands of Mexico and Guatemala " (A.O.U. Checklist, 1957).

Apparently it is nocturnal in habit and by day seeks out the densest thicket in which to roost. In addition, it is said to be silent most of the time, which adds to the difficulty in locating individuals except during the breeding period.

Voice

This owl is said to be most difficult to locate, its call having a ventriloqual quality that is very deceptive. The common call is described as being very low pitched for so small a bird; it is expressed in writing as " boo-boot," with the second note accentuated and louder than the first. Sometimes the " boo " is dropped and the single " boot " note uttered.

Compared to most owls, its repertoire seems small.

Nesting

The abandoned nesting-holes of the flicker are said to be the preferred nesting-sites of this small owl.

From the records it appears to prefer high altitudes, the accounts indicating that most nests found in the southern part of the range are at altitudes of from 6,000 to 10,000 feet. We have no nesting records for the northern part of the range, where the birds may nest at lower elevations.

Three or four eggs are laid in May or June. The period of incubation is apparently unknown, but newly hatched young taken in the nest are described as being covered in thick white down. Young in first juvenal plumage are said to be barred in "transverse bands of dusky and greyish white gradually increasing posteriorly."

Around the nest the adult birds are not aggressive, and from all accounts merely perch nearby to watch the observer.

Food

Accounts indicate that the flammulated screech owl is largely, if not wholly, insectivorous, though it may occasionally capture a small mammal or bird.

The few stomachs examined contained various beetles, moths, grasshoppers, crickets, caterpillars, ants, other insects, spiders, and scorpions.

GREAT HORNED OWL

Great horned owl.

Description

The great horned owl is a large bird, averaging about 22 inches in total length. It is full-bodied, has prominent "ear" tufts, a white throat patch, and large facial disks. The eyes are large and with a yellow iris. Colour varies with locality to a large extent, ranging from almost white to very dark brown, and a great deal of individual colour variation occurs in most populations as well. The markings are mainly dark and transverse, giving the bird a barred appearance,

and young birds in their first year are usually more heavily marked than adults. Females are larger than males, but shape, general size, and the prominent tufts combine to make this bird easy to identify despite these variations.

Range and Variation

The great horned owl occurs over most of the continent, from the northern limit of trees south through Panama and South America to the southern extremity of that continent. It is absent from the Caribbean Islands and the Alaska Archipelago, but may be encountered almost anywhere in British Columbia except on the Queen Charlotte Islands, where it has yet to be recorded.

The variation in colour and size throughout its range has led to the description of ten subspecies of great horned owl, four of which are known to occur in this Province. Birds of the coastal slopes are, on the average, very much darker than those found in the interior. Some appear almost black, but on closer inspection are found to be very heavily barred and dark brown in colour. Birds in the interior are pale, and though separated as three subspecies roughly—southern, central, and northern—are much alike in appearace to the casual eye. In Arctic regions the horned owl is almost white, and some prairie birds, too, appear almost white when seen at distance.

Voice

The most often heard call of the great horned owl is a low-pitched series of five or six mellow hoots which can be heard at great distance. The call of the female differs from that of the male in being of lower pitch and less prolonged, but is still easily recognizable. Expressed phonetically the call is written as "whoo—who-whoo-who-who" with little or no accent, but, as with most bird calls, many variations occur. For example, some calls are preceded by a short barking noise; in others an extra hoot is added or one is deleted; and in some a sort of hiccuping note is inserted in the series. Young great horned owls give forth with many unowl-like squawks, screeches, groans, and chuckling noises that have to be heard to be appreciated. Norton (Bent, 1938) "heard a variety

of other notes from the female of the pair he was watching "—some as " auk?; auk?; auk?; in a higher key than her usual note . . . sometimes she called with a hawk-like note, ke yah, heyah—or in feeble tones erk, erk—or a meow, like that of a cat."

Such verbal descriptions of bird calls are good, but I believe in most cases they have meaning only if you've heard the bird previously. The auk? auk? query note which I've heard on several occasions reminds me of the flight quack of the mallard drake. Once, while calling ducks at dusk near Tofino, I saw a great horned owl settled on a tall snag above me. When I quacked it did also, which led to me believe that mimicry was an attribute of the great horned owl, although I'd never heard of it before, nor have I heard of it since. At any rate this bird is capable of producing a very wide variety of noises, and this often enables one to locate and identify it.

Nesting

The great horned owl usually nests in trees and often in the abandoned nest of one of the larger species of hawks. Most often it lays two large, almost round white eggs, but occasionally three to five will be found in the nest. Eggs are laid in February and early March, often when the ground is still covered with snow. The period of incubation is twenty-eight days, and the young, maturing rapidly, are foraging with the parents within eight weeks. When first hatched the young are covered in white natal down which is replaced by a greyish down as they develop. When fully feathered the young resemble the parent birds, though usually they are more heavily barred.

This owl, like others, varies in behaviour when the nest or young are disturbed. On the whole, however, it is most aggressive and will often strike the intruder. Armed with long, sharp talons, the great horned owl is capable of inflicting severe injury to man, and has done so on many occasions. As with other owls, both male and female attend the young, and when two such feathered projectiles attack a man climbing the nest tree, the advantage is decidedly in their favour. Thus it is wise to use caution when in the vicinity of this bird's nesting-place.

Food

The great horned owl is a most efficient hunter, capable of taking mammals up to the size of the large prairie hare with little difficulty. In British Columbia most areas frequented by the varying hare have an accompanying population of great horned owls, for this is its normal food in the northern part of its range. Grouse, waterfowl, poultry, and smaller birds are taken as well, and with apparent ease. The prey is usually pounced upon from the air, although I've seen this bird sail silently from the perch to pin down a rabbit or grouse on the ground.

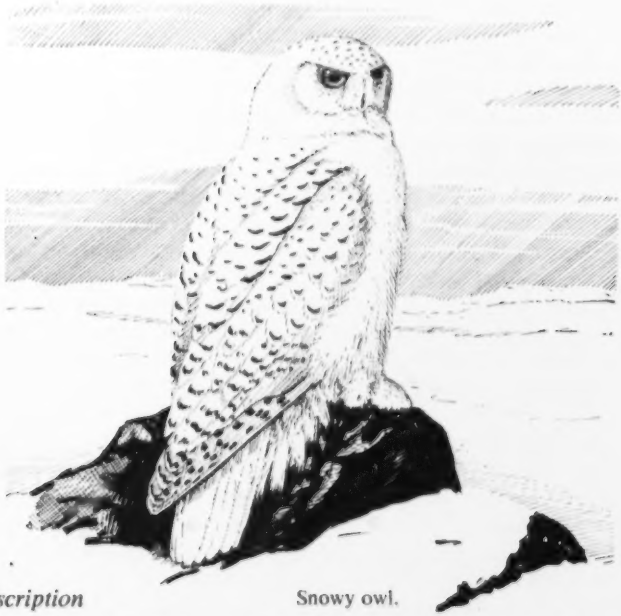
Pellet examinations have revealed a wide variety of food, including fishes, reptiles, mice, rats, as well as the larger prey previously mentioned. When mammals are plentiful, the great horned owl seems to prefer these to birds, but where this is not the case, birds form a large part of the diet. Consequently, the economic importance of this species depends upon the locality; in some areas it is beneficial, in others quite the opposite.

The great horned owl is versatile in its choice of habitat and, although essentially a bird of wooded areas, is found also in prairie-like country where small groves and wood-lots provide day cover and nesting-sites.

This owl becomes active at twilight, hunting through and along the edge of the forest, and over open country when such is present. Occasionally it is observed hunting by day, but as a rule it confines its activities to the hours of darkness.

Migration

The great horned owl is regarded as non-migratory, but, like other raptorial birds, will wander extensively when food-supply is short. It exhibits fluctuations in population numbers in many places, being absent for several years and then reappearing for varying lengths of time.



Snowy owl.

Description

The snowy owl measures about 25 inches in total length, and by weight is the largest of the North American owls. It has a bulky rather than a slim build, is without "ear tufts," and is basically white in colour. The iris is yellow. Females and young of the year are heavily marked with dark barring to a greater extent than are adult males, which are smaller and often without any markings. Thus this large round-headed owl is most distinctive in appearance and very easily identified.

Range and Variation

The open tundra of the barrens north of tree-line is the normal range of the snowy owl. Only one species has been described, and it occurs in this habitat around the globe (holarctic).

Like other northern owls, this species is given to extensive wanderings during some winters, due, perhaps, to a failure of the food-supply in the north. At any rate it is seen far to the south in winter, having been recorded quite frequently south to the central United States and occasionally to the Caribbean.

In British Columbia the snowy owl is a widespread and fairly regular winter visitor throughout the southern portions of the Province. During some winters it is quite numerous in open country on the lower mainland, in the southern interior, and on southern Vancouver Island.

Voice

Although I have observed and studied this bird on many occasions, I have yet to hear it make a sound. In summer, however, on the breeding range, it is said to be vociferous. Like some other owls, it is said to have a variety of calls, ranging from a deep hoarse "who-who" call to raven-like notes which Bailey (Bent, 1938) interprets as "krohgogoyok." Other writers describe "a loud, hollow, barking growl," or "a whistle of intense shrillness like a human being," and various "rattles, groans, and shrieks." From the accounts it seems that the snowy owl confines most of its vocal efforts to the breeding period.

Nesting

The snowy owl nests on the ground, usually on some prominence in the open tundra. The nest is a shallow, scooped-out hollow sometimes sparsely lined with moss and feathers, sometimes with no nesting material at all. Usually from five to eight white oval-shaped eggs about 2¼ inches long are laid during the month of June. The young hatch after an incubation period of about thirty-two days. Only the female incubates and apparently also feeds the young, although the male is in attendance and provides food. When first hatched the young are covered in thick white natal down which is soon replaced by the greyish-brown down preceding the first winter plumage.

Although prolific, laying a large number of eggs, the snowy owl seldom raises more than three or four young per annum. Murie (Bent, 1938) found evidence that suggested the high mortality in the young was due to the rigours of the climate and, in lesser extent,

to predation by jaegers. Nevertheless, the snowy owl is apparently an abundant bird in the north.

Like other large owls, this species' behaviour is said to vary when nest and young are threatened. Some are most aggressive, others aggressive to a lesser extent, while others simply fly about at distance uttering calls. Such a large formidably taloned bird of prey is quite capable of inflicting injury, and it is wise to use caution when approaching nest or young.

Food

The snowy owl is a diurnal hunter, and consequently birds make up a larger part of the diet than they do in owls which hunt chiefly at night. In the north the snowy owl is said to feed mainly on hares, lemmings, and other small rodents which usually abound on the tundra and which are also active by day. According to Bent (1938), "when hard pressed for food this bird will eat whatever dead birds or animals it can find, or will attack animals caught in traps."

There is no doubt that the snowy owl is versatile in its feeding habits. On the lower mainland I have observed it feeding on the meadow mice that are periodically abundant there. In coastal areas on southern Vancouver Island it feeds largely upon wintering waterfowl and small passerine birds, while fish and insects are also listed as part of the diet.

A bird such as this must be extremely adept and efficient to cope successfully with prey which ranges so widely in size. The techniques used in taking the large Arctic hare, for example, must be quite different from those used in securing a small bird such as the pipit. The snowy owl has been labelled by some as inept predator. In my experience it is quite the opposite, displaying remarkable versatility and efficiency in securing prey, whatever it may be.

Migration

Most authorities who have studied this bird in the north seem to agree that there is a general annual southward movement which involves most of the population. This is not an extensive movement of great distance, except periodically when conditions are such that force some of the birds much farther south than usual.

HAWK OWL

Hawk owl.

Description

The hawk owl is well named, for it does have some very hawk-like characteristics. It is a trim, compact bird measuring about 15 inches in total length. The facial disks are inconspicuous, and the

eyes are more lateral in position than are those of other owls. The opening of the ear is small, more conventional in size than is the very large opening common to other owls. The wings are somewhat pointed in outline. This and the relatively long tail impart a falcon-like appearance when the bird is in flight. The flight is like that of many hawks—swift, graceful, and quite unlike that of the other owls. Further, like the hawks, this bird is most active during the hours of daylight.

It has a round head without "ear" tufts, and the plumage is soft and specialized for silent flight. Adult birds are dark, almost black on the upper parts and marked thereon with white spots, small and closely spaced on the head, larger and more widely spaced on the back and wings. Below, the colour is very pale pearly-grey, closely overlaid with even cross-barring. The eyes are yellow and the facial disks pale, almost white, and broadly edged with black.

Altogether the hawk owl is a striking and distinctive bird difficult to confuse with any other.

Range and Variation

The hawk owl is essentially sub-arctic in distribution, ranging in summer across the extreme northern forested areas of North America from Alaska to Labrador and Newfoundland. In the east the summer range extends southwards to northern Michigan, but in the west there are only two or three casual summer records from the northern United States.

In British Columbia it has been recorded in summer only on a few occasions, and then only in the extreme north at the Yukon-British Columbia Boundary on the Haines Road, at Atlin, and at Nig Creek in the Peace River area. Even in winter it appears to be uncommon in this Province, having been recorded only a few times at widely spaced intervals of time. Records are from Chilliwack, Vancouver, Victoria, Comox, Port Alberni, and from a few scattered points in the interior.

A paler form of hawk owl occupies similar range in the Old World and is believed to wander occasionally to western Alaska. The darker North American form is also said to occur sporadically in the northern part of the British Isles. Some observers believe

that these "off range" birds are but individual variants of the indigenous forms.

Voice

I've seen the hawk owl but twice—a lone individual in winter at the mouth of the Capilano in the early 1930's and a family group foraging in black spruce along the Haines Road in 1956. None of these birds made a sound. Our illustrator, Frank Beebe, who lived north of Edmonton and knew these birds in winter there, says that they were silent for the most part at that time of the year.

Bent (1938), in his compilation of North American birds, records the observations of several contributors from the northern breeding range who note that the varied calls of this owl are all quite musical.

Apparently there are quite a number of calls, some of which are interpreted in the above reference as follows: "A trilling whistle wita-wita-wita, etc.—other calls are squee-rick or quee-ick, wike or rike and wherr-u." "Kr-r-r-r-e-e-eep, a low rapid rattle rising to a cry is often heard. Wur-a-wur-a (rapid) and kuk-a-wuk (very low)"; "a melodious wheup-oop, oop, oop, oop, oop, given generally at dusk"; "a rolling whill-ill-ill-ill-loo, somewhat like the cry of the long-eared owl."

It seems that this owl, too, confines most of its vocal efforts to the breeding period.

Nesting

May is recorded as the height of the egg-laying season for this species. It lays from three to nine (most often seven) oval to elongate-oval shaped eggs. These measure on the average 1¾ inches long and are white with a glossy texture. The period of incubation is apparently unknown, but both parents take part in incubation. It is believed that the female carries out most of this duty, the male standing guard and supplying food.

Nesting-sites vary considerably, but natural cavities in trees and the abandoned nesting-holes of woodpeckers are very often used. Abandoned nests of crows are taken over as well, but when necessary the hawk owl builds its own nest of sticks, moss, and grasses.

Such nests are often placed at the top of a broken-off snag or in the limbs of a tree. Frequently, when snags are utilized, the eggs are laid on punky wood without benefit of nesting material.

Written accounts indicate that the hawk owl is often vicious in defence of its nest and young. Several collectors write of painful scalp wounds inflicted by aroused parent owls when the nest was being molested. Otherwise it is quite "tame" and easily approached.

The young develop rapidly and by late summer resemble the adult except in being "more reddish-brown on the underparts, less white spotting on the upper parts and with the tail more broadly tipped with white." They have been observed to forage with the parents until the following spring.

Food

The hawk owl is said to subsist almost entirely upon meadow mice and other small rodents. On rare occasions when small mammals are scarce it has been known to take insects, willow grouse, ptarmigan, weasels, and possibly varying hare and sharp-tailed grouse, though in the latter cases these larger prey may have been first killed by other predators.

Migration

The hawk owl exhibits periodic southward population movements which are generally regarded as vagrant migration. These extensive movements are not of annual occurrence, but occasionally involve large numbers of birds. It is thought that high population numbers in some years coupled with a food shortage may be responsible, but there is no conclusive evidence that this is so.

In recent years the hawk owl seems to have declined, and the large numbers recorded in sporadic migration in the late 1800's and early 1900's have not been seen in recent years.

PYGMY OWL

Pygmy owl.

Description

The pygmy owl, the smallest of the owls occurring in British Columbia, measures only about 7 inches in total length. It has a chunky build, a small head with no "ear" tufts, and a longer tail than other small owls. The eyes are yellow.

In colour it varies from reddish-brown to greyish-brown above. The head and back are marked with light-coloured spots, smaller on the head, larger on the back and upper sides, and there is a black patch on each side of the hind neck. The breast is pale in colour, varying from grey to white and clearly marked with narrow vertical

brown stripes. The tail, brownish in colour, is distinctly cross-barred with white or near white.

Most pygmy owls in the coastal areas are more reddish-brown than are those from the interior, in which grey predominates. However, a percentage of greyish and brownish individuals occurs in both areas.

Range and Variation

The pygmy owl is a western bird, the eastern margin of its range extending from south-eastern Alaska south through the Rocky Mountains to the higher country in Southern California. In British Columbia it occurs in most wooded areas, except on the Queen Charlotte Islands. Records indicate that it is more abundant in the coastal areas and in the southern interior than it is in the north, but this may be due to the lack of observers in the more remote areas.

Over its range the species has become differentiated and is said to include five subspecies, three of which occur in this Province. These are very similar in habit and appearance; the coastal races are richer in colour on the average than the more greyish form which occupies the area east of the Coast Range. Authorities disagree over the contention that two coastal races occur in British Columbia, one confined to Vancouver Island and the other to the coastal mainland. We are inclined to believe that these coastal birds are of the same subspecies, and certainly for our purposes here we need not concern ourselves. So far as the bird watcher is concerned, the pygmy owls in the interior, on the mainland coast, and on Vancouver Island have no apparent field differences. Little confusion should be experienced anywhere in the Province in identifying a pygmy owl as such.

Voice

The most often heard call of the pygmy owl is a penetrating roll of closely spaced whistled hoots. It usually ends in two or three widely spaced bell-like notes. In print the call is often expressed as "o-o-o-o-o-o-o-o———ook———ook——ook." Sometimes the single whistled ook note is heard, widely spaced and repeated many

times. There are no doubt variations to these calls, but on the whole the pygmy owl is much less versatile in its range of notes than are most other owls. The call is easily imitated and is most effective in calling up these small owls. They come readily from considerable distance and will often follow the caller for miles, answering each call and flying from perch to perch as the caller moves along. Western field workers use the call of the pygmy owl in collecting specimens of small perching birds. Very often the entire bird community will gang up to harass an owl, particularly a pygmy owl, that has invaded the area in which they happen to be. By imitating the pygmy owl's call, one can usually bring other birds to within very close range.

Nesting

The pygmy owl usually nests in an abandoned woodpecker hole. In April and May it lays from two to seven (usually three or four) almost spherical white eggs which measure about 1¼ inches long. The period of incubation is apparently unknown, but young are usually present in the nest by late June or early July.

The female incubates the eggs and feeds the young while the male forages about the countryside to capture prey which he carries to the nesting-site. Usually he roosts at some distance from the nest and calls until his mate comes to take the food.

Young mature quickly and are usually on their own in August. First annual plumage is much like that of the adult, though less spotted and more greyish about the head.

Food

The pygmy owl is said to feed largely upon birds during the breeding period and upon a variety of other prey during the ensuing months of the year. These little owls are not uncommon on Vancouver Island and the lower mainland, and as they are most active by day they are readily observed. In my experience the pygmy owl feeds almost entirely upon birds. Its flight is varied, but on the attack it is swift, direct, and with rapid wing beats reminiscent of the shrike. Birds up to the size of the robin are easily captured by the pygmy owl, and as it hunts by day it is less likely to secure

small mammals, especially on the coast where most of these are nocturnal in habit. In the interior where chipmunks, lizards, and other diurnal animals occur, it no doubt feeds upon them to some extent.

Migration

Though regarded as resident and non-migratory over most of its range, there is nevertheless a definite fall and spring movement of the pygmy on Vancouver Island. In the spring we see them most frequently in the semi-open slash, while in the fall they seem to occur mainly in open mature fir forests.

It is likely that this diminutive owl is often overlooked and not identified as an owl due to its small size and unowl-like flight.

BURROWING OWL

Burrowing owl.

Description

The burrowing owl is rather small, measuring only about 9 inches in total length. It has very long, sparsely feathered legs, a very short tail, and a round head with no " ear " tufts. The eyes are yellow. The stance depicted in the illustration is typical and, with other distinctive attributes, enables one to readily identify this bird. In addition, the burrowing owl is given to the habit of bobbing and of occasionally flipping into the air from its perch on the ground. These movements attract one's attention at a distance, especially as they are performed by day and usually at the burrow-mouth in flat open country.

In general colour, the burrowing owl is pale brown, almost straw coloured, above. It is darkest on the back, almost white

below, and the body markings are rather indistinct. Those on the back are in the form of light-coloured spots, while those on the breast and flanks are dark and give the bird a slightly barred or mottled appearance.

Range and Variation

The burrowing owl lives in open desert- and prairie-type habitats. In North America it ranges from southern Canada, south through the western United States and Mexico, and east from there to the Gulf of Mexico.

In British Columbia it occurs mainly in the extreme southern parts of the interior, but is recorded quite often in winter on the lower mainland, on Lulu Island, the Gulf Islands, and on southern Vancouver Island.

Two subspecies occur in North America—the one described above, which occupies the large part of the range on this continent, and one which occupies the prairies of south and central Florida and which occurs as well on the Bahamas. Other races of burrowing owl occur in Central and South America and in parts of the West Indies.

Voice

Compared to many other owls, the burrowing owl's range of sounds is limited. It has an alarm call which may be expressed as a shrill "cack-cack-cack-cack," and which is uttered when the bird is disturbed. A mellow cooing call, said to be a love call and always uttered from the ground, resembles the call of the cuckoo and has been expressed phonetically as "coo-c-o-o." Bill snapping, a screaming note, and other low musical calls are described by various authors (Bent, 1938), but these apparently refer to the calls described above.

Nesting

This owl usually nests in the abandoned burrows of such mammals as the badger, marmot, and prairie dog. It lays from six to eleven glossy white eggs during the month of May. These eggs,

which measure about 1¼ inches long, soon become very dirty and appear brownish rather than white. They are deposited at the end of the burrow, which is usually from 5 to 10 feet from the entrance. Nesting material includes dried horse manure, dried grasses, and other debris. Both parents take part in incubation, which lasts about twenty-one days. The newly hatched chicks are scantily feathered in greyish-white down. First juvenal plumage resembles that of the adult on wing and tail, but otherwise is generally more grey in colour. By September the young have assumed their first annual plumage and closely resemble the parent.

When disturbed or being dug out of the burrow, the young set up a buzzing, hissing noise which resembles that made by a rattlesnake. Some believe that these sounds may discourage predatory mammals, such as the weasel, coyote, and others. No doubt this also accounts for the myth of rattlesnakes and burrowing owls inhabiting the same burrow.

Food

The burrowing owl feeds mainly on insects and small mammals, which are taken both by day and by night, although twilight seems to be the favoured time. It also feeds upon small reptiles, amphibians, crustaceans, and ground-frequenting birds such as the horned lark. Stomach analyses and examination of remains about the burrows, however, indicate that the food of this owl consists largely of prey injurious to man.

Migration

The burrowing owl is resident over most of its range, but in the northern areas where winter conditions are severe it does migrate. The occurrence of burrowing owls in the southern coastal sections of British Columbia indicates a sort of sporadic migration from the interior of the Province or perhaps from central Washington.

BARRED OWL

Barred owl.

Description

The barred owl is a stocky bird measuring about 20 inches in total length. It has a short dumpy build, a round head with no "ear" tufts, and the eyes are black, not yellow. In these respects it resembles the spotted owl, to which it is closely related and which is regarded as its western counterpart. The barred owl is greyish-brown, prominently marked with horizontal barring on the upper breast, which contrasts sharply with vertically striped underparts, a distinctive-appearing bird that can be confused only with the spotted owl. The spotted owl, however, is dark brown and does not have the vertical stripes. Both have dark eyes, both are birds of the

ADDENDUM

Barred Owl

(Page 35.)

More recent records, inadvertently omitted here, are from Likely, Prince George, Birch Creek, and Vernon.

dense coniferous forest, but their ranges are so distinct that little difficulty should be encountered in identifying either species.

Range and Variation

The range of the barred owl extends from "northern British Columbia, through northern Alberta, central Manitoba, Ontario, Quebec and Nova Scotia southward, east of the Rocky Mountains, through eastern Montana, eastern Wyoming, and northeastern Colorado to Texas, Louisiana and Florida; and the mountains of Mexico and Central America from Durango, Mexico and Veracruz south to western Guatemala and Honduras" (A.O.U. Checklist of North American Birds, 1957).

In British Columbia the barred owl has come into the Province from the east, along the Peace River, and the very few records we have represent the western extremities of the known range of this species. As far as we know, it has been recorded only twice—once in 1943 at Liard Crossing, where a specimen was collected and another heard calling, and once at Hazeltine Creek, where a nest containing three young was found (Munro and Cowan, 1947). This nesting indicates that the species is probably more plentiful than existing records show. Lack of observers, vast stretches of suitable habitat in which the birds may be dispersed, coupled with a shy and retiring nature and largely nocturnal habit, very likely account for the paucity of records in British Columbia. The species has become differentiated into three geographic races, all similar in general appearance and habit.

Voice

The barred owl is said to be a noisy bird at all seasons of the year, except when young are in the nest. It is regarded by many to be the noisiest of all owls and one capable of producing a very wide variety of calls. "The ordinary call note, the one most often heard, consists of two groups of four or five syllables each, given with a rhythmic swing and strongly accented, loud, wild and strenuous, hoo-hoo-to-hoo-ooo, hoo-hoo-hoo-to-whoo-ooo; the first two syllables in the former group and the first three in the latter group are distinct, deliberate and low-toned; the last two are run together,

with a strong accent on the next to the last, which is loudest of all, rising in pitch and then sliding down the scale and diminishing in volume as the final syllable ends.

"There are many variations of this call, which is sometimes reduced to three or even two syllables, or only one group is given" (Bent, 1938). Forbush translates all of this down to "who cooks for you, who cooks for you all" and claims it gives one a very good idea of the barred owl's call.

Many other sounds are uttered by this owl, some of which have been expressed as follows: "a prolonged cat-like scream, loud and prolonged outbursts of cackling, laughing, and whooping sounds, a husky whistling note, with an almost human quality." One 'coon hunter relates how the calling of a barred owl sounded so much like the baying of his hound that he was completely fooled until he located the bird.

To become familiar with such a wide range of calls, one must live where these birds are plentiful. People living in the Peace River District and boreal forest area of the north-central and north-eastern parts of the Province may well have heard some of these calls and, quite understandably, failed to attribute them to a bird. We suspect that many reported lynx and cougar screams are in reality calls of this or some other species of owl.

Nesting

The barred owl is known to nest in a variety of places, but hollow trees and natural cavities in cliff faces are favoured. The abandoned nests of hawks and other large birds are sometimes utilized, as are man-made nesting-boxes.

In early spring the female lays two or three, sometimes four, dull white ovate eggs which hatch after an incubation period of twenty-one to twenty-eight days.

At about three or four weeks and before they can fly, the young are said to leave the nest and perch about in the surrounding cover. The adults feed the young there and for a considerable length of time after they are capable of flight. When complete the first annual plumage resembles that of the adult, but is more brown and buffy in colour.

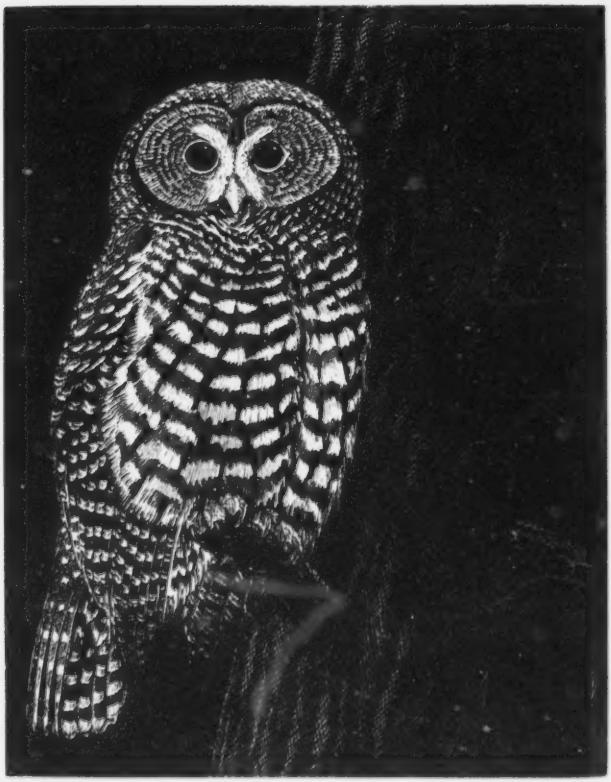
Food

A study of the results of stomach analyses, pellet examinations, and visual observations indicates clearly that the barred owl feeds upon whatever is handy. In some instances insects, crustaceans, reptiles, amphibians, and fish make up the diet; in others it is composed almost entirely of birds, ranging in size through the songbirds to such items as poultry and other owls. Screech owls, barn owls, long-eared owls, and short-eared owls have all been listed as prey for this species. Although larger mammals such as rabbits, opossums, and squirrels are taken, rats and mice make up a large part of the food.

Migration

The barred owl is non-migratory and consequently may be encountered anywhere on its range at any season of the year.

SPOTTED OWL



Spotted owl.

Description

The spotted owl is a short barrel-shaped bird measuring about 20 inches in total length. The head is decidedly round, has no "ear" tufts, and the eyes are dark, not yellow. The plumage is very dark brown in colour, but marked throughout with light spots,

which give the bird a distinctive cross-barred appearance. In this it differs from the barred owl found to the north and east, which, though very closely related and similar in size and shape, is, despite the name, essentially a striped, greyish-brown coloured bird. The spotted owl frequents the dense coniferous forests. It is almost entirely noctural in habit and consequently is seldom seen, so that over most of its range it is considered rare.

Range and Variation

In British Columbia the spotted owl has been recorded only in the south-western extremities, where we have records from Alta Lake, Manning Park, Hope, Chilliwack, Vedder Crossing, and Vancouver. From here the range extends south through the coastal regions of Washington, Oregon, California, and into Mexico. Towards the southern end of the range it extends eastwards to central Colorado, eastern Arizona, and western Texas.

Throughout this range three subspecies or geographic races of spotted owl are recognized in the A.O.U. Checklist of North American Birds (1957). A dark northern form occurs from south-western British Columbia south to the San Francisco Bay area. The other two forms are southern races, the more eastern one being somewhat smaller and paler in colour, the other being very similar to the bird we have here.

Voice

The spotted owl is said to call only at night. According to Stephens (Bent, 1938), "The ordinary notes heard were a succession of three syllables, alike in tone and volume, the first followed quickly by the second and then a pause of considerable length before the third, hoo, hoo—hoo. The other series of notes is different and has a curious canine quality of tone; these were usually four, uttered rather rapidly, becoming emphatic towards the end, and may be represented by the formula: ah,oo,ou,ou." The late Kenneth Racey, well-known western ornithologist, also noted the dog-like quality of spotted owl calls that he heard at Alta Lake. Dickey (Bent, 1938) describes turkey-like chuckles, dove-like cooing notes, and a low indrawn whistle with a rising inflection.

According to him, the basic call consists of two long and two short notes. Having never heard this owl, I can only surmise that it has a wide variety of calls which are uttered mainly during the breeding season.

Nesting

The spotted owl nests in natural cavities in cliffs and hollow trees, and occasionally in the abandoned nest of some other bird of comparable size. Little nesting material is used, the eggs being laid on the ground or upon an accumulation of debris. It lays from two to four (more often two) dull white oval-shaped eggs in early spring. The period of incubation is probably comparable to that of the barred owl, which takes about twenty-eight days. Newly hatched young are covered in white natal down which changes to a buffy-grey colour as they become older. Full plumage is probably attained at about four months, as it is in the barred owl, although vestiges of down may still adhere to the feathers about the head. Young are said to leave the nest at about three to four weeks of age and while still incapable of flight. Parent birds apparently continue to feed the young long after they can fly.

When the nest and young are approached, the spotted owl may react in several ways. Some are most aggressive and will attack and strike the intruder; others simply fly off; while others perch about in very close proximity, apparently unconcerned. This unconcerned attitude has been interpreted as docility or stupidity by some and as boldness by others. At any rate the reaction seems to be quite variable, and it is wise to approach the nest and young of any large owl with a certain amount of caution.

Food

"Rats and mice seem to be the favourite prey of the spotted owl, wood rats (*Neotoma*), white-footed mice (*Peromyscus*) and the red tree-mouse (*Phenacomys*), which forages in the forest trees" (Bent, 1938). This quotation refers to the species at the southern end of its range; little is known of its feeding habits in British Columbia. A spotted owl captured on the streets of Vancouver had in its talons a domestic pigeon which it had apparently

taken on top of the old Post Office Building at the corner of Granville and Hastings. It is suspected that the spotted owl, like the closely related barred owl, is a versatile hunter and takes whatever opportunity presents. Amphibians, reptiles, small mammals, fish, and other birds have all been recorded. It apparently hunts both by eye and ear, as do other owls, locating the prey upon ground or limb and pouncing upon it after a silent aerial approach.

Migration

As far as is known, the spotted owl is a non-migratory species, being resident the year round in all parts of its range.

Great gray owl.

Description

The great gray owl measures up to 30 inches in total length, has very large facial disks, relatively small yellow eyes, no "ear" tufts, and appears larger than any other North American owl. It is generally grey in colour and mottled with rather indistinct light markings. The facial disks, however, are strikingly marked in fine concentric light and dark circles which radiate out from the eye.

The tail and the wings are long, the body plumage is long and full, but the actual body hidden in this mass of feathers is surprisingly small; in fact, the body is much smaller than that of either the snowy or great horned owls, which, though large-bodied birds, appear smaller than the great gray due to their more compact feathering.

Altogether, the great gray owl is a distinctive-appearing bird which can be mistaken for no other.

Range and Variation

The breeding range of this species is confined largely to the northern parts of the Northern Hemisphere, from tree-line south through the boreal forest. However, there are breeding records south into the United States.

As a rule this bird remains pretty well in northern regions, but periodically, due perhaps to winter food shortage and to undetermined factors, it wanders extensively. For example, it has been recorded during the winter in New York State, Massachusetts, southern Ontario, Idaho, Montana, Washington, Oregon, and California. In British Columbia this great gray owl has been recorded at Atlin, Stewart Lake, Chezacut, in the Cariboo, Vernon, Cranbrook, and on the lower mainland. It is of rare occurrence in the southern portions of the Province.

Throughout its range in North America the great gray owl occurs as one subspecies. A paler form which is found in Northern Asia was once believed to occur in western Alaska, but this has since been disproved (Bent, 1938).

Voice

The only great gray owl that I ever saw was silent, and as there is little in the available literature concerning its call, one is led to believe that perhaps it is more silent than are most other owls. Frank Beebe, our illustrator, who once lived where this owl was common, has heard it make but one sound, an explosive barking noise when suddenly disturbed. Bent (1938) quotes only Henderson, who writes, "a rather musical whistle was uttered frequently like oo-ih, sometimes softly, at others quite loudly. They also hooted several times, a deep booming who-oo-oo-oo." The call has also been likened to that of the screech owl as "a tremulous, vibrating note."

As sound is most important in locating owls, it may be that the lack of sight records is due in part to the apparently silent nature of this bird.

Nesting

The great gray owl lays from two to five dull white eggs which average about 2¼ inches in total length, and which are more elliptical in shape than the eggs of most other owls. Nesting records indicate that the eggs are usually laid in April and May, but the exact length of time required for incubation is apparently unknown. It seems safe to assume that it is similar to that of other large owls, running perhaps to thirty-two days. Newly hatched young are covered in white down which is soon replaced by down of a grey or greyish-brown colour. Flying young in nearly adult plumage have been taken in August, the plumage then resembling that of the adult, apart from some down on the underparts.

Nests have been recorded from a variety of habitats—some high up and exposed in tall burnt-over conifers, some low down in the thick cover of muskeg swamps, and some in open poplar stands. Abandoned nests of various species of hawks are often utilized, the owls adding little but a few feathers upon which to lay the eggs.

When disturbed around the nest, the adults are said to be non-aggressive, either flying off or circling about at some distance. In general, the great gray owl is regarded as an unsuspicious and "stupid" bird. It is easily approached and has often been taken by

hand or knocked from its perch by sticks or stones. It has been suggested that this lack of caution may account, in part at least, for the apparent decline of this species in recent years.

Food

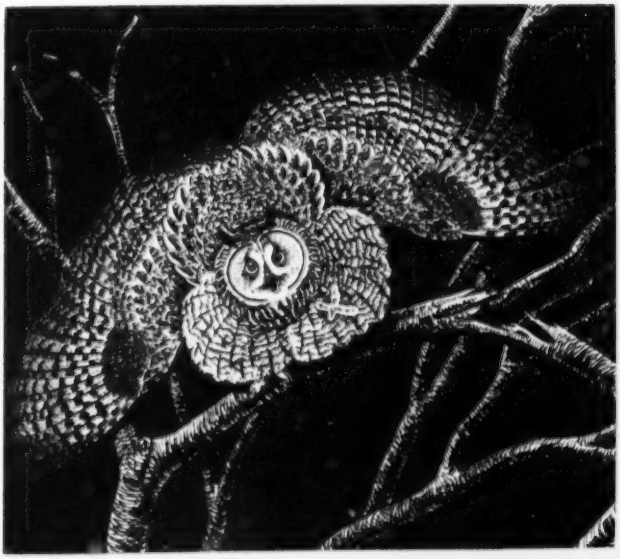
The great gray owl is a bird of the forests, usually confining its activities to that habitat during the hours of twilight and darkness, but sometimes hunting by day, particularly at the northern extremities of its range.

From all accounts it feeds primarily upon small mammals. A large part of the food consists of young rabbits, squirrels, and mice, but birds have been recorded occasionally. Dall (Bent, 1938) recorded the remains of thirteen red polls from the crop of a single bird, and even the crow has been taken. No doubt, at the northern limits of its range, the great gray owl does feed regularly on birds. In summer, at those latitudes, it is daylight almost twenty-four hours a day, and birds as well as mammals are readily available.

Migration

The great gray owl is non-migratory in the general sense of the word. It does, however, exhibit what is known as vagrant migration. During some winters, numbers of them move southwards, much as the snowy owl does. This is not of general occurrence, but seems to depend upon the winter food-supply in the north, the owls moving in lean years. It is believed that such vagrant owls seldom return to the north, and that most perish. Southern nesting records may originate from survivors of these wanderings.

LONG-EARED OWL



Long-eared owl.

Description

The long-eared owl is a relatively slender bird, measuring about 15 inches in total length. It is similar in size and body form to the buffy-coloured short-eared owl, which is commonly seen in fields and marshes over most of the Province. The long-eared owl, however, is more dark greyish-brown in general colour and is prominently striped and faintly cross-barred on the breast. The breast of the pale-coloured short-eared owl has only vertical striping. Furthermore, the feathered tufts commonly called "ears" are longer and usually very prominent in the long-eared; short and inconspicuous in the short-eared. These long tufts arise towards the centre of the bird's forehead and lend to it a distinctive appearance not shared by any other owl. In adult plumage the facial disks are

rich reddish-brown, a uniform characteristic which aids in identifying the species.

In habit, too, the long-eared and short-eared owls differ sharply. One is not likely to flush a long-eared owl from marsh or field, because by day this owl roosts in the densest woodland and ventures forth only at night. By contrast, the short-eared owl is quite diurnal and is often observed foraging during the day.

As a classic example of protective coloration in nature, the long-eared owl is hard to beat. It is capable of "slenderizing" itself by compressing the body feathers, elongating the facial disks, extending the ear tufts, and straightening the legs, so that it resembles a long slim branch, only the bright yellow eyes giving the show away. When the bird senses the disguise has failed, it slowly expands, shortens, spreads the wings, and assumes the threatening posture depicted in the illustration.

Range and Variation

The long-eared owl is widely distributed throughout the world. In North America it occurs in most wooded areas, where it is a bird of the forest seeking out dense cover in which to roost by day. In British Columbia it is found chiefly in deciduous woodlands, but in the east it seems to prefer coniferous groves. In this Province it has been recorded more often from the southern areas, in the Okanagan, the lower mainland, on Vancouver Island, and only occasionally north to Vanderhoof. However, as it occurs regularly in Alaska and the Northwest Territories, one may well encounter this bird anywhere that suitable habitat prevails within the political boundaries of the Province.

Ornithologists recognize only two North American subspecies of long-eared owls—one occurring from the central part of the continent eastwards, the other a western form. These are so similar in appearance and habit that there is no need to describe them here. Elsewhere in the world the species occurs in Western Europe, south to the Azores, the Canary Islands, Africa, and east through the Himalayas to Manchuria, Korea, and Formosa.

Voice

The long-eared owl has, perhaps, an even wider range of calls than have most other owls. These have been variously described by many authors, but most defy verbal description. The commonly heard calls have been aptly described by Peterson (1941) as "low mellow dove-like calls of three or four notes, 'hoo, hoo, hoo' or 'who, hoo, hoo, hoo'; a cat-like whine and a high-pitched whistled 'whee you.'"

Most of the calling is done during the breeding season, at which time the variation of noises is very wide indeed. It may range from twenty or more hoots uttered consecutively to individual unowl-like notes of a rasping, croaking, or groaning nature. Like other owls, the long-eared, when disturbed, resorts to much bill snapping and hissing.

Nesting

In April and May the long-eared owl lays from three to eight oval glossy white eggs, usually in the abandoned nest of a crow or magpie. The young hatch after an incubation period of about twenty-one days, and as an egg is laid every other day, the young in each nest vary considerably in size. Young are partially feathered in white down on hatching, and after a period of about eight weeks attain full juvenal plumage. At this time they are capable of flight and forage with the adults. Prior to this, at about five weeks, and when still flightless, the young are known to leave the nest in favour of the surrounding cover, where they are tended and fed by the parent birds. The family group is said to remain intact throughout the fall and part of the winter months.

Although usually shy and retiring, the long-eared owl is remarkably bold in defence of its young. It also exhibits a trait not usually found in raptorial birds, that of attempting to decoy the intruder away from the young. The "broken-wing act," characteristic of such birds as plovers and some waterfowl, is habitually utilized by this owl. It has also been known to utter plaintive shrieks and cries as of a small animal in distress, at the same time assuming an attitude as if on prey. When the intruder approaches, the owl takes off to repeat a like performance at greater distance from the young.

Food

So nocturnal a bird must of necessity feed largely upon small mammals which are also most active at night. As songbirds, upland game birds, and poultry are most active by day, it is not surprising to learn that these are seldom taken. Pellet and stomach analyses carried out on this species have revealed that about 90 per cent of the prey is made up of injurious rodents. Dr. Paul Errington's summary of 3,273 long-eared owl kills enumerates 3 Norway rats, 1 juvenile cottontail rabbit, 2,732 meadow mice, 497 deer mice, 14 shrews, and only 26 small birds, mainly finches (Bent, 1938). As many other researchers have had comparable results, there is no doubt that this owl is a most beneficial bird.

Migration

The species is resident over much of its range, and it has been recorded near Vancouver, on Vancouver Island, and in the Okanagan at all seasons of the year. In some regions definite migratory movements have been noted, due perhaps to local factors such as weather conditions and the lack or abundance of food.

In recent years the long-eared owl appears to have declined in numbers in British Columbia. It is possible, however, that its secretive nature and nocturnal habit, coupled with misidentification by casual observers, has contributed to this belief.

SHORT-EARED OWL

Short-eared owl.

Description

The short-eared owl derives its name from two curved inconspicuous tufts of feathers which arise from the centre of the forehead. It is a slender owl, similar in size and shape to the long-eared owl, and, like it, measuring about 15 inches in total length. It

differs in being much paler in colour and less heavily streaked on the breast. This bird is generally buff-coloured, with a mottled back and with vertical streaking which lacks cross-barring on the breast. The iris is yellow, as it is in the eyes of most owls.

This is a bird of the open marsh and field, where it is often seen foraging by day. In flight two large light-coloured patches are apparent on the underside of the wing. An irregular, deceptive, sloppy-appearing flight differentiates it from any hawk. Its size, colour, habitat, and the fact that it is flying by day separate it from the other owls.

Range and Variation

The short-eared owl ranges throughout most of the world, occurring on every continent except Australia (Bent, 1938). In North America it is likely to be found wherever suitable habitat occurs, from the shores of the Arctic Ocean south to Panama. It is a common bird in British Columbia and, generally speaking, is the owl most often seen by man. This is likely due to the open habitat that it frequents and to its habit of flying during daylight hours.

Despite the wide range that it occupies, this species shows little specific variation in colour, size, and habit. There is considerable individual variation, some birds being more reddish than others, and some being very pale in colour. It is believed that age may account for much of this variation, the older birds being lighter. At any rate only one subspecies is recognized in the Northern Hemisphere.

Vancouver residents have a good chance of observing this owl from the highways and roads on the lower mainland. Watch for a pale-coloured medium-sized bird flying low over the fields, particularly in the late afternoon. For a good close look, one may often call this owl up to close range by making a squeaking noise.

Voice

Like most owls, the short-eared has a wide variety of calls, most of which are uttered during the breeding season, and most of which are difficult to describe. In Bent's "Life Histories of North Ameri-

can Birds," Charles Urner attempts to describe them as follows: "There are five distinct calls of the short-eared owl. The first, high pitched and rasping, resembles the barking of a small animal. It is usually uttered in triplets and might be written wak, wak, wak, or yak, yak, yak. The second is uttered singly and is more prolonged. w-a-a-a-k. The third, wa'a or even wow. The fourth suggests sawing or filing, a rather long-drawn rasping note, while the fifth is a clear whistle-like squeal. Like most owls the young and adults may snap their bills and hiss." In addition, this bird has a courtship flight and song; the song uttered in flight is made up of "a series of toots repeated fifteen or twenty times, at four toots per second, in a low-pitched monotone" (quote from Dubois, Bent, 1938).

Nesting

The short-eared owl nests on the ground, usually in dry marshlands, tall grass meadows, and rarely in low shrubbery. The eggs may be deposited in a shallow depression in the ground, in a nest built of marshy vegetation, or simply upon squashed-down vegetation in the nesting area.

From four to nine dull white ovate eggs are laid, usually in the months of April and May. After a period of about twenty-one days, the young hatch and are at that time covered in a buffy-coloured natal down which blends admirably with their habitat. Full juvenal plumage and flight capability are attained at about thirty-six days. The young leave the nest before they can fly, so that one may find them at various distances and as far as 150 yards from where they were hatched.

It is believed that most owls, like many other birds, have courtship displays and flights, but as most owls are nocturnal, such displays are not apt to be seen. The short-eared owl's courtship flight, however, is sometimes performed by day. The male flies to heights estimated at up to 300 feet, where he performs a series of swoops, each terminated in a strange wing-clapping ritual. The wings, extended down and back, are brought rapidly together in ten or twelve strokes, producing a distinct fluttering sound. The performance is usually carried out over the nesting area, but it is sometimes observed after the nesting season has passed.

The short-eared owl is known to use the "wounded-bird act" when intruders approach the brood, but this seems to vary with individuals, and some parents simply fly off, apparently relying upon the protective coloration of the young to safeguard them.

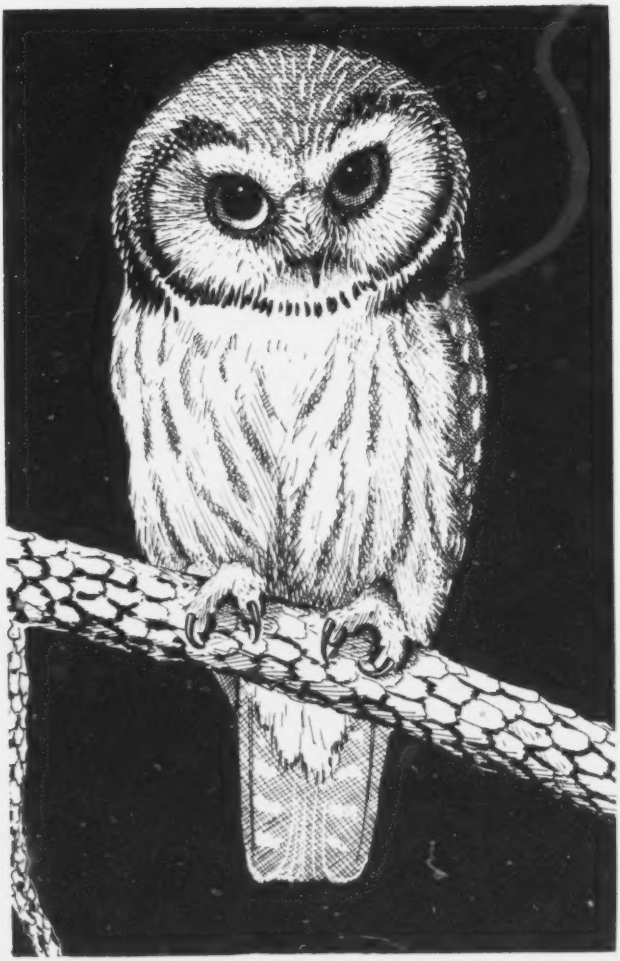
Food

A day-hunting owl such as this feeds to a certain extent upon small ground-frequenting birds, but still a large part of the diet is made up of harmful rodents. Although often seen by day, this owl also hunts by night; in fact, a large part of the hunting is carried out at dusk and early dark when small rodents are active. Consequently, mice make up from 75 to 90 per cent of the short-eared owl's diet. When mice are not plentiful, however, this bird displays remarkable versatility in feeding. In some areas it has been recorded feeding almost entirely upon insects; in another, upon a breeding colony of terns; and there are several records where only small birds were being taken. However, in British Columbia this owl feeds almost entirely upon rodents and is regarded as a highly beneficial species.

Migration

The short-eared owl is a regular migrant in British Columbia. It moves northward in March and April and returns southwards in September and October. A large number, however, remain to winter on the lower mainland and on southern Vancouver Island. There are occasional winter records as well from the southern interior and from the northern reaches of the Province.

SAW-WHET OWL



Saw-whet owl.

Description

The saw-whet owl is a small chunky owl measuring about 8 inches in total length. Despite its distinctive appearance, it is sometimes confused with other small owls, most often the screech and pygmy owls. It is, however, noticeably smaller than the screech owl and lacks the "ear" tufts so prominent in that species. From the pygmy owl it is distinguished by its squarish-shaped head, larger size, and by soft diffused light-brown striping on the breast. In the pygmy owl the head is small and round, and the stripes are well defined and dark.

On the head and back the saw-whet owl is dark brown. Below it is white or buffy in colour and marked with the soft striping mentioned above. The facial disks are distinctive, white above and between the eyes, and bordered above and on the sides with fine short white lines which extend back over the crown.

Unlike most owls, in which the juvenal plumage closely resembles that of the adult, the saw-whet juvenile has a totally different appearance. The head, back, and upper breast are dark reddish-brown; the facial disks are very dark, almost black, and the lower breast and abdomen are unstreaked and rusty-ochre in colour.

At one time, due to this striking plumage, young saw-whet owls were regarded as a different species and, in fact, named Kirtland's owl, an error that was soon rectified.

Range and Variation

The saw-whet owl occurs in wooded areas throughout most of temperate North America. In the west it ranges from southern Alaska, through British Columbia including the Queen Charlotte Islands, and south through the United States into Mexico.

In British Columbia two races occur. The one described occupies various forest types on the mainland; the other, a darker more reddish race, is confined to the Queen Charlotte Islands, where it is found mainly in deciduous woods bordering mature coniferous forest.

Voice

The only call I've ever heard the saw-whet owl make is a spaced series of single bell-like notes. The sound and the spacing is reminiscent of those made by a person filing a large saw—hence the name saw-whet.

Young around the nest are said to make a hissing sound, which is interpreted as a call for food, and the adults are said to reply in similar manner. They also make soft peeping chick-like sounds. Squeaking, whistling, and chuckling notes of the adult saw-whet are also described in Bent (1938) by various authors, all of whom indicate that these sounds, including the bell-like notes, are uttered in or about the breeding season.

Nesting

The saw-whet lays its eggs in the abandoned nesting-hole of a woodpecker, usually that of the flicker. In April and May it deposits from four to seven pure white oval-shaped eggs which measure about 1¼ inches long. Both parent birds take part in incubation, which is estimated to last from twenty-one to twenty-eight days. Newly hatched young are sparsely feathered in white natal down, but in about two weeks are dark brown on the upper parts. When about a month old the young are fully feathered and capable of flight.

Adult saw-whet owls are not aggressive about the nest, and usually perch nearby eyeing the intruder. At any season these small owls are remarkably tame and may often be captured by hand.

Food

The saw-whet is a nocturnal hunter and is seldom active by day. It retires to the dark thickets during the daylight hours and begins foraging when darkness falls. On the Queen Charlotte Islands its hunting technique is to perch at the edge of a meadow, low down in a deciduous tree, and from there to launch the attack on the white-footed mice which also come out at night to feed.

Small rodents, mainly nocturnal mice, make up most of the saw-whet's diet. It occasionally takes small birds and is known to eat

fresh carrion when such is available. Of twenty-two stomachs examined by Dr. A. K. Fisher (Bent, 1938), seventeen contained only mice, one a bird, one an insect, and three were empty.

Migration

The saw-whet owl is generally regarded as resident over most of its range. There is evidence, however, that it does migrate in some areas. One such area is Vancouver Island, where, sporadically, numbers of these small owls appear in the fall. Their presence is usually made known only by the calamities which overtake some of them. Wires, window panes, and other hazards of night flight bring them down; otherwise, one wouldn't suspect they were around.

Boreal owl.

Description

The boreal owl resembles the saw-whet owl, but is larger, being about 10 inches long, and is generally darker in colour. From the saw-whet it differs in having a dark border around the outside of pale facial disks, a yellow instead of a black bill, spots rather than streaks on the head, and white spots on the dark-brown back. Like the saw-whet, the boreal owl does not have "ear" tufts, and this serves to distinguish it readily from the screech owl, which it approaches in size.

"The juvenal plumage is sufficiently unlike that of the saw-whet to be easily recognized. The entire upper parts are clear dark brown . . . without any lighter markings; the wing and tail are as in the adult; there are a few white spots on the forehead and about the ears; the facial disk is partially white mottled with brown; the underparts are slightly paler, brown mottled with buff. . . . In older birds all of these colours are somewhat pale" (Bent, 1938).

Range and Variation

The boreal owl is often termed the Arctic saw-whet; it is mainly a bird of northern wooded areas, although it does occur in some northern treeless regions. It is also known as the Arctic owl, little boreal owl, and Richardson's owl.

In North America it ranges through the boreal forests across the continent, wandering south in winter to southern Canada and the northern United States.

The breeding range is mainly northern, but there are occasional records south to New Brunswick, Vermont, southern Manitoba, and central Alberta (Bent, 1938).

In British Columbia the boreal owl has been recorded only a few times. According to Munro and Cowan (1947), there is one breeding record from the Flood Glacier and two summer records from Thutade Lake and Laurier Pass. In winter it has been recorded some ten times in localities ranging from Atlin at the northern limit of the Province to Sumas Prairie, Hope, and the Okanagan in the southern reaches.

Like other northern forms, the boreal owl appears to be sporadic in its winter migrations, appearing in varying numbers at

widely spaced intervals. Like many other owls, too, it is difficult to observe, being nocturnal and silent for the large part. For these reasons, it may be more plentiful than the records indicate.

This owl occurs as a paler subspecies in the Old World and has been recorded on the Pribilof Islands (Bent, 1938). It occurs, possibly, at other points in the extreme western parts of North America. Over the remainder of its range on this continent, one subspecies only is recognized.

Voice

I have never heard the boreal owl, and know it only from study specimens and the literature from which the following is taken. A courtship song similar to the tolling of a soft but high-pitched bell is sometimes likened to the dropping of water. Comeau (Bent, 1938) is quoted on this: "A slow liquid note that resembles the sound produced by water slowly dropping from a height; hence the Montagne Indians call it (the boreal owl) pillip-pile-tshish which means 'water dropping bird.'"

Other authors' record: "Its cry at night is a single melancholy note, repeated at intervals of a minute or two"; "I heard them uttering a peculiar grating cry on a cloudy morning in the middle of May"; "it was often heard crying in the evening almost like a human being."

Written records indicate that the boreal owl is noisiest in the breeding period and mostly silent during the rest of the year.

Nesting

In courting, the male flies in circles around a tree in which the female is perched and utters what may be termed a "love song," as mentioned above. Seton (Bent, 1938) describes it thus: "Like the slow tolling of a soft but high-pitched bell, it came. Ting, ting, ting, ting, and on, rising and falling with the breeze, but still keeping on about two tings to the second, and on, dulling as with distance but rising again and again."

The boreal owl nests in abandoned woodpecker holes, chiefly those of the flicker and pileated woodpecker. It lays from three to seven eggs in April, May, or June. The eggs are oval in shape, smooth and white, but not glossy in texture. They measure about

1¼ inches long. The period of incubation is said to be of approximately three weeks' duration. As with other owls, incubation begins soon after the first egg is laid, and because egg-laying may take ten days or more, the young in the nest vary greatly in size.

Newly hatched young are clothed in white down and assume juvenal plumage when about three weeks old. The juvenal plumage is clear dark brown above, lighter mottled brown below, with a few white spots on the forehead and ears. There is sometimes a white mark on the breast, and the thighs and feet are cinnamon-buff coloured.

When the nest is approached, the boreal owl does not attack the intruder, as do some of the larger kinds of owls. It sits peering at the observer and sometimes simply flies away. It is said to be generally "tame" and easily caught by hand when circumstances are favourable.

Food

From all accounts the boreal owl feeds by preference upon small rodents, mainly mice. In one experiment, two house sparrows placed in a cage with a captive boreal owl overnight were unharmed the next morning. When two meadow mice were introduced, however, both were eaten and the sparrows subsequently taken as well. In the wilds the white-footed mouse and several kinds of meadow mice are the main items, but small birds and insects have been recorded as well. Apparently the boreal owl is crepuscular—that is, twilight loving—and is most active in the early hours of darkness.

Migration

According to Bent, a few large autumnal flights of this species have been observed. One occurred through the interior of British Columbia during the winter of 1898–99. Other large southward movements occurred in 1922–23, when numbers of boreal owls were recorded in North Dakota, Michigan, and Ontario. There have been no large movements recorded in British Columbia in recent years. Although the boreal owl is largely sedentary, there are numerous records that indicate individual wanderings far from what is considered to be the normal range.

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